

Shell London Lecture Series: Stranger than Fiction: Worlds around and beneath us

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Geological Society of London

Life at deep-sea hydrothermal vents: biodiversity in a new resource frontier

SPEAKER: *Adrian Glover, Natural History Museum*



It is an oft-told tale that the most famous biological discovery of the late 20th century was made by geologists. In the spring of 1977, a cabal of bearded American oceanographers made the first daring submersible dives to a deep-sea hydrothermal vent in the east Pacific ocean and filmed, photographed and collected the biology that would make them famous. But it was no ignominy for the biology community; uninvited on that first expedition they went on to lead the majority of research at vents over the next three decades.

Over 35 years on, it is the geology which may now turn attention back to the deep sea. In 2011 the government of Papua New Guinea granted the world's first deep-sea mining lease to a Canadian corporation to extract copper and gold from a hydrothermal vent field. In March 2013, the UK Prime Minister announced UK government support for the mining of polymetallic nodules in the central Pacific ocean at depths of 4000m.

In this talk, I will summarise our current understanding of biodiversity at deep-sea hydrothermal vents, and compare it with the soft-sediment, muddy habitats that dominate the rest of the deep seafloor. I will discuss the potential impacts of deep-sea mining and the importance of biological data. I will also outline some of the very newest results from an expedition this year to the Cayman Trough, the world's deepest hydrothermal vent, that lies in an exclusive economic zone of the United Kingdom.

Date: *Wednesday 3 July 2013*

Timings: *This lecture will be given at 3pm and 6pm on this day (with tea/coffee served for half an hour before each), so please let us know, when requesting a place, which talk you would like to attend.*

Venue: *The Geological Society of London, Burlington House*

Entry to this lecture is free to all, but places are allocated on a ballot basis. Please call at reception (to your right) or contact the Society by post, phone, fax or email (see below).



For further information, please contact:
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2013 Programme

9 January	Reconciling past and future worlds: Geology and ground engineering	<i>Jackie Skipper, Geotechnical Consulting Group</i>
27 February	Landslides and subsidence: Engineering geology in an age of austerity	<i>David Shilston, GSL President</i>
27 March	Exceptionally preserved fossils: Windows on the evolution of life	<i>David Siveter, University of Leicester</i>
17 April	Rivers under the sea	<i>Jeffrey Peakall, University of Leeds</i>
29 May	CCS - Capturing Global Opportunities	<i>Paul Garnham, CCS Project Manager, Shell</i>
3 July	Life at deep-sea hydrothermal vents: biodiversity in a new resource frontier	<i>Adrian Glover, Natural History Museum</i>
11 September	Dwarfism in animals on islands	<i>Victoria Herridge, Natural History Museum</i>
9 October	The Mars Science Laboratory mission: The Curiosity Rover's exploration of Gale Crater	<i>John Grotzinger, Caltech</i>
20 November	Shearwater: Geology Under Pressure	<i>Caroline Gill, Senior Production Geologist, Shell</i>
18 December	Lakes Beneath the Ice	<i>Martin Siegert, Edinburgh University</i>



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